

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
7 July 2005 (07.07.2005)

PCT

(10) International Publication Number  
**WO 2005/062471 A1**

(51) International Patent Classification<sup>7</sup>: **H03L 7/10**, 7/189

[NL/NL]; Groenewoudseweg 1, NL-5621 BA Eindhoven (NL).

(21) International Application Number:

PCT/IB2004/052756

(72) Inventors; and

(22) International Filing Date:

10 December 2004 (10.12.2004)

(75) Inventors/Applicants (for US only): **NITSCHKE, Gunnar** [DE/DE]; Philips Intellectual Property &, Standards GmbH, Weissshausstr. 2, 52066 Aachen (DE). **AUE, Volker** [DE/DE]; Philips Intellectual Property &, Standards GmbH, Weissshausstr. 2, 52066 Aachen (DE). **BURY, Andreas** [DE/DE]; Philips Intellectual Property &, Standards GmbH, Weissshausstr. 2, 52066 Aachen (DE).

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

03104837.4

19 December 2003 (19.12.2003) EP

(74) Agents: **VOLMER, Georg** et al.; Philips Intellectual Property &, Standards GmbH, Weissshausstr. 2, 52066 Aachen (DE).

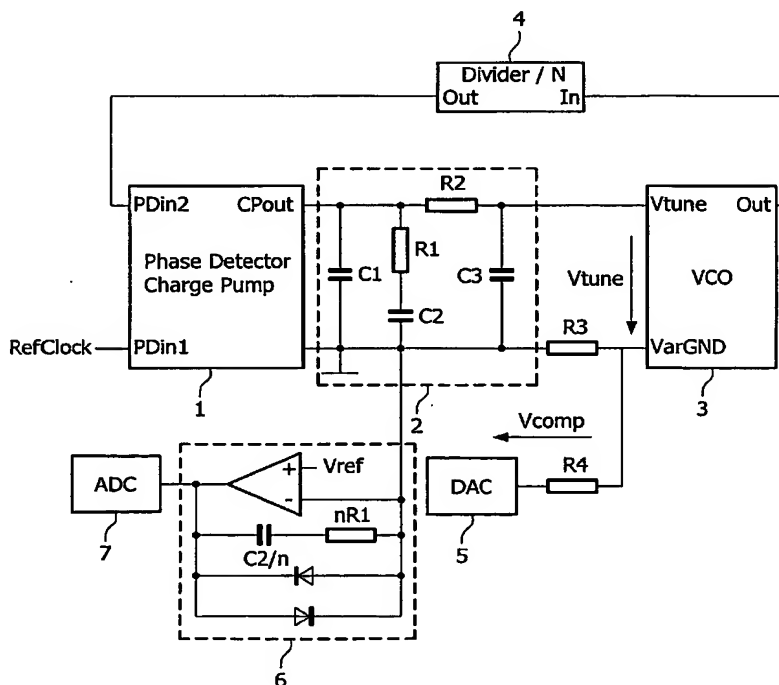
(71) Applicant (for DE only): **PHILIPS INTELLECTUAL PROPERTY & STANDARDS GMBH** [DE/DE]; Stein-damm 94, 20099 Hamburg (DE).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,

(71) Applicant (for all designated States except DE, US): **KONINKLIJKE PHILIPS ELECTRONICS N. V.**

[Continued on next page]

(54) Title: **METHOD AND ARRANGEMENT FOR INTERFERENCE COMPENSATION IN A VOLTAGE-CONTROLLED FREQUENCY GENERATOR**



(57) Abstract: The invention, which relates to a method and an arrangement for interference compensation in a phase-locked loop comprising a voltage-controlled frequency generator, wherein the frequency generator is tuned to a nominal frequency by a tuning voltage  $V_{tune}$  and whose actual frequency is compared with a reference frequency by means of a frequency comparison and is re-adjusted if a deviation is detected via the frequency comparison, in which case, in the event of interference, the tuning voltage  $V_{tune}$  is changed by an interference voltage  $V_{stör}$  that depends on the interference event, and thus a frequency deviating from the nominal frequency is generated, which deviating frequency is corrected again by the phase locked loop, is based on the object to provide a method and an arrangement for interference compensation in a phase-locked loop comprising a voltage-controlled frequency generator, with which a deviation from a predefined nominal

frequency is avoided if known interference events occur. The object is achieved in accordance with the invention in a method whereby, if a known interference event occurs, a voltage  $V_{stör}$  which compensates for the interference voltage  $V_{comp}$ , is generated in synchronism with this with sign inversion and is superimposed on the interference voltage  $V_{stör}$ .



GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

- (84) **Designated States** (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO,

SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

**Published:**

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*